NATIONAL SCIENCE FOUNDATION
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OFFICE OF THE
ASSISTANT DIRECTOR
FOR MATHEMATICAL AND
PHYSICAL SCIENCES

FEB - 6 2004

Dr. Wick C. Haxton
Department of Physics
University of Washington
3935 University Way N.E.
Seattle, WA 98105-6613

Dear Dr. Haxton:

With this letter I am notifying you that your proposals for a deep underground laboratory, PHY-0127107, "Underground Science for the 21st Century: The National Underground Science Laboratory at Homestake," and PHY-0352227, "The National Underground Science and Engineering Laboratory at Homestake: Project Book, Reference Design Stage," are being returned without prejudice. As you can see from the enclosed documents, your proposals were well regarded scientifically. In addition, your proposal and the two other unsolicited proposals received by the Foundation have played an important role in shaping the best possible approach to the planning process for the development of a proposal for a possible underground laboratory or laboratories. We have gained much useful information as a result of the time and effort you spent in submitting this unsolicited proposal, and we wish to emphasize that our action does not negatively reflect on the scientific merits of your submission. All four unsolicited proposals are being returned at this time.

Our decision to return this proposal reflects altered circumstances that affect all planning for a possible underground laboratory. The site review panel that named Homestake as "the most favorable site" for a deep underground science laboratory also expressed serious concerns about potential adverse consequences of flooding and the "potential for destabilizing the flooded region" by allowing the site to be flooded and then subsequently dewatered: "Important reasons to continue pumping include maintenance of mine stability, avoidance of equipment replacement or damage, consistency with existing operating approvals and preservation of the rock mass environment." During the summer of 2003, the Homestake mine owner discontinued pumping water from the site. Since then, water has risen to an unknown depth, with uncertain ramifications for the viability of the site for science.

It is prudent, therefore, to consider again all possibilities for an underground lab, including a reevaluation of the suitability of Homestake as a site. We want to clearly and unequivocally state that this reconsideration does not eliminate Homestake as a possible site. Rather, we are now focused on establishing a framework for consideration of the science that the community wishes to pursue and the best possible location or locations for that science.

To assist the community in directing its energies to the most potentially productive ideas and to encourage valuable collaborations, NSF will – in the near future – issue the first in a staged three-part series of solicitations for sequentially more specific planning activities.

The first solicitation will provide support for one or more interdisciplinary teams to develop a preliminary plan of research activities requiring deep underground access, to aggregate the proposed research in appropriate science modules, and to define the physical requirements needed for each module. A second solicitation will fund grants for conceptual planning of infrastructure as related to the site. A third solicitation will fund technical designs for the underground infrastructure, detailed geological characterization and environmental permitting, and development of management plans. It will also support development of plans for an initial suite of research activities, as well as cost estimates and safety requirements. We encourage all interested stakeholders to submit future proposals in accordance with these solicitations.

These solicitations do not signify that NSF or any other agency of the federal government has approved the construction and operation of a deep underground laboratory and a corresponding suite of experiments. Like all major research projects contemplated for funding, an underground lab would have to compete for priority and resources with dozens of other promising programs. Moreover, even if NSF determined that a compelling case could be made for an underground laboratory, that does not assure its inclusion in the President's budget request – or Congressional appropriation of funds for the project.

Rather, the solicitations will enable the Foundation to pursue six overarching objectives for developing a proposal for the construction and operation of an underground laboratory. The process for developing plans and proposals for underground science must:

1) be open and transparent to all interested parties, including civic, cultural, and environmental groups;
2) be inclusive of all scientific and engineering communities with an interest in an underground science;
3) produce a reliable estimation of cost and schedule for the lifecycle of the project;
4) include detailed plans for mitigating the hazards of operating such a facility;
5) include detailed plans for education and outreach;
6) cultivate strong regional participation.

NSF will convene an informational meeting to explain the goals of the upcoming solicitations and to discuss NSF requirements for developing proposals.

We invite and encourage your participation in this process. The work you have already undertaken in the interest of developing a proposal for an underground lab will be of great value to this new proposal planning process. We are optimistic that this process can ensure development of the best possible proposals for an underground laboratory.

If you have any questions regarding this matter, feel free to contact either Dr. Richard Boyd or Dr. Eugene Loh.

Sincerely yours,

Michael S. Turner
Assistant Director
Directorate for Mathematical
and Physical Sciences

Enclosures

cc: Karl J. Valentine
Sinh P. Simmons